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(71) Applicant *(for all designated States except US)*: **THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK** [US/US]; 116th Street and Broadway, New York, NY 10027 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **CHAN, Siu-Wai** [US/US]; 69 Ross Avenue, Demarest, NJ 07627 (US). **ZHANG, Feng** [CN/US]; 421 West 118th Street, Apt. 1A, New York, NY 10027 (US).

(74) Agents: TANG, Henry et al.; Baker Botts L.L.P., 30 Rockefeller Plaza, New York, NY 10112-4498 (US).

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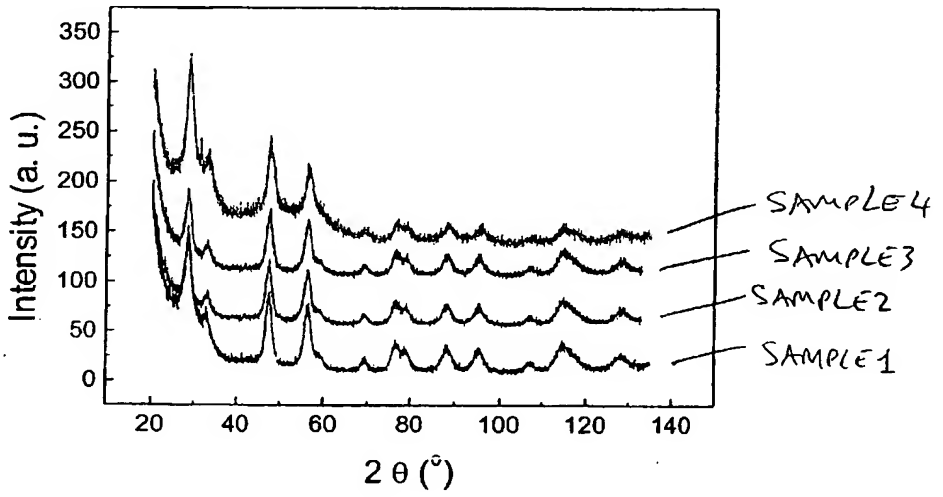
(54) Title: METHOD FOR PREPARING NANOPARTICLES COMPRISING CERIUM OXIDE AND ZIRCONIUM



(57) Abstract: This invention provides a method for preparing nanoparticles comprising cerium oxide and zirconium and having a narrow size distribution. The method comprises providing a first aqueous solution comprising zirconium oxychloride and providing a second aqueous solution comprising a first component which is either cerium nitrate or hexamethylenetetramine. The second aqueous solution is added to the first aqueous solution to form a first mixture. A third aqueous solution comprising a second component which is either cerium nitrate or hexamethylenetetramine, and which is different from the first component, is added to the first mixture to form a second mixture. The second mixture is maintained at a temperature no higher than about 320 °K to form nanoparticles. The nanoparticles are then separated from the second mixture and sintered in air at a temperature ranging between about 500° and about 1100°C. The nanoparticles obtained by the method of the invention are at least in part crystalline.

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